

**FINANCIAL ASSISTANCE
FUNDING OPPORTUNITY ANNOUNCEMENT**



**U.S. Department of Energy
Golden Field Office**

National Geothermal Database

Funding Opportunity Announcement Number: DE-PS36-08GO98020

Announcement Type: Amendment 001

CFDA Number: 81.087

Issue Date: 11/20/2008

Application Due Date: 1/29/2009, 11:59 PM Eastern Time



U.S. Department of Energy Geothermal Technologies Program

DATE: November 20, 2008
FROM: Genevieve Wozniak, Contracting Officer
TO: All Prospective Applicants
SUBJECT: **Amendment No. 001** to Announcement No. DE-PS36-08GO98020
NATIONAL GEOTHERMAL DATABASE

The Announcement is amended as follows:

- 1. Under APPLICATION DUE DATE, on the cover page, and under PART IV – Application and Submission Information; E. Submission Dates and Times: the date is changed from February 3, 2009 to January 29, 2009.**
- 2. Under “Phase I – Data Collection Plan and Database Proof of Concept”, the paragraph is amended to read:**

Phase I will include the development of requirements and design proof of concept for the web-based database. A data collection plan shall be provided to DOE as well as a plan to create the classification system. Regarding the data collection plan to be included within the application, please reference the National Renewable Energy Laboratory (NREL) report by scrolling to the bottom of the synopsis page on the IIPS (DOE e-center) website and clicking on the link titled: [“Assessment of Geothermal Data Resources and Requirements”](#). This report contains a summary of current geothermal data as of September 2008, and is meant to be used as an initial list of potential data sources for the National Geothermal Database that is to be expanded upon within applications. The database should include site-specific historical data. Relevant data includes: geothermal resource, power plant, and institutional barrier data. Once these items are addressed, a conceptual design (architecture) for the database must be created and provided to DOE. Data should be extractable according to large scale (i.e., physiographical) and small scale site level data (i.e., geothermal wells). Phase I should also include the overall design plan, software schematic, data variables, units of measure, and a software test plan. The proof of concept must include a data security and system access plan. Once DOE approves the data collection plan and proof of concept, Phase II will begin.

All other parts of the Announcement remain unchanged.

**FINANCIAL ASSISTANCE
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**U.S. Department of Energy
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National Geothermal Database

Funding Opportunity Announcement Number: DE-PS36-08GO98020

Announcement Type: Initial

CFDA Number: 81.087

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PART I – FUNDING OPPORTUNITY DESCRIPTION

Background

The role of renewable energy alternatives has become increasingly important to the national energy landscape as energy security and climate change dominate the U.S. energy policy debate. Geothermal energy has the potential to emerge as a capable alternative to conventional energy resources due to its renewable baseload capabilities, little to no carbon emissions, and affordability relative to other alternative energy technologies. The U.S. Department of Energy's (DOE) Geothermal Technologies Program's (GTP) mission is to work in partnership with U.S. industry to establish geothermal energy as an economically competitive contributor to the U.S. energy supply.

In early 2008, DOE GTP initiated the *Geothermal Risk Mitigation Strategies Report* to analyze the risks involved with geothermal energy development, which can be found at the following link: http://www1.eere.energy.gov/geothermal/pdfs/geothermal_risk_mitigation.pdf. The report proposed mitigation strategies to overcome barriers to development and enable additional investment in conventional and Enhanced Geothermal Systems (EGS). As a result of the risk mitigation strategies proposed in the report, GTP is initiating an effort to create a web-based National Geothermal Database that will serve as a central repository for all publically accessible geothermal data. While domestic geothermal resource, power plant, and institutional barrier data (such as transmission infrastructure access, risk mitigation mechanisms, and policy information) is the primary focus of data gathering, international data sources may also be included when such knowledge would contribute to the development of domestic geothermal resources. This announcement is authorized under provisions of Energy Policy Act of 2005, Section 931(a)(2)(C).

National Geothermal Database Description

The National Geothermal Database will store critical geothermal site attribute information such as temperature at depth, seismicity/microseismicity, fracture maps, drilling data, permeability data, well logs, geophysical surveys, etc. The database should be inclusive of all types of geothermal resources such as hydrothermal, geopressured, Enhanced Geothermal Systems, geothermal fluids coproduced with oil and/or gas, etc. It should also utilize information from existing USGS geothermal resource assessments and DOE funded R&D projects. This standardized set of geothermal resource data will be made available to the public and serve to focus geothermal exploration activities, thereby mitigating investment risks. It is expected that wherever possible the recipient will collaborate with private companies to gain access to historical drilling information. DOE envisions creating an expansive, useful, user-friendly database that will continue to operate beyond the project period, even after all DOE funds have been expended.

Data Organization, Formatting, and Verification

Data will be organized such that criteria useful in assessing and identifying sites with the best geothermal resource potential can be defined. For example, the database should have a flexible architecture such that data may be retrieved by temperature (i.e., direct use, low/moderate/high temperature, etc.), geophysical, geologic, groundwater, environmental factors, and/or other criteria useful in assessing and identifying geothermal resource potential.

Data will be organized using a set of common metrics for assessing and comparing geothermal resources. The Applicant should propose standard data collection units (such as SI units) and a methodology for data evaluation and documentation of the origin of the data to verify data

quality. Metadata pertaining to the data set or collection of data items, a computer file, name of the file, type of file and the name of the data administrator are examples of desired data attributes.

The database will include a standard financial risk classification system in order to provide geothermal prospectors with information needed to make the most informed decisions possible on the potential for success at specific locations. The classification system will provide a means for classifying key site criteria using an overall favorability index. It will allow geothermal industry investors and developers to assess the probability of investment risk based on a standardized set of geothermal resource criteria and attributes. Ultimately, this classification system may evolve to support power generation estimates of potential geothermal sites.

Additionally, an interactive mapping capability is preferred as part of the database which will utilize user-friendly overlays of pertinent site criteria in three main areas – geothermal resource, institutional barrier (i.e. transmission lines), and power plant data. Mapping of this nature has been completed for some regions of the United States, but expansion on the regional information to an all inclusive map is desired.

Conditions and Phases

GTP is seeking to award one cooperative agreement, for a five year period, on a competitive basis that addresses all items mentioned above. Funding for each subsequent phase beyond the first (as described below) will be conditional on a DOE stage gate review with positive determination that the next project phase may advance based on successful completion of the prior phase. Recipient cost share is not required, but is encouraged and may be used as a Program Policy Factor (see Part V.A.3 “Other Selection Factors”). Domestic applicants are eligible to apply including institutions of higher education, non-profit and for-profit private entities, State/Local Governments, and Indian tribes. Any of the previously mentioned entities, Federally Funded Research and Development Centers (FFRDCs), and federal agencies will be allowed as subcontractors. Consortia of any of the groups listed previously will be given greater consideration. For example, teaming among institutions of higher education, industry, trade organizations, federal and state agencies (e.g., USGS, BLM), State/Local Governments, Indian tribes, etc. will be highly favored, as will collaboration with FFRDCs. DOE envisions that the project will include the following phases, at a minimum:

Phase I – Data Collection Plan and Database Proof of Concept

Phase I will include the development of requirements and design proof of concept for the web-based database. A data collection plan shall be provided to DOE as well as a plan to create the classification system. The database should include site-specific historical data. Relevant data includes: geothermal resource, power plant, and institutional barrier data. Once these items are addressed, a conceptual design (architecture) for the database must be created and provided to DOE. Data should be extractable according to large scale (i.e., physiographical) and small scale site level data (i.e., geothermal wells). Phase I should also include the overall design plan, software schematic, data variables, units of measure, and a software test plan. The proof of concept must include a data security and system access plan. Once DOE approves the data collection plan and proof of concept, Phase II will begin.

Phase II – Database Prototype

Phase II will include the design and development of a database prototype for baseline testing and analysis prior to creating the working database. Data categories, the classification

system, and levels of access (to ensure data security) must be incorporated into the prototype so that all portions of the system may be evaluated. Once DOE approves the prototype, Phase III will begin.

Phase III – Working Database Establishment

Phase III will establish the working database including final system design, initial data population, and database testing at the single, multiple and administrator levels. Linkage of the database to other data sources will be accomplished at this time. A systems and user's guide, data dictionary and quality assurance plan must be provided. In collecting current and historical data, the applicant should prioritize critical data currently deteriorating for digitization or conversion from outdated electronic formats to compatible sources. Once DOE approves of the initial database as it is established, Phase IV will begin.

Phase IV – Database Operation and Maintenance

Phase IV will include operation and maintenance of the database for up to two additional years. The database will be made available to the public via a web-based system, and data population will continue along with database improvement and maintenance. Reports detailing usage of the database and specific requests for data must be provided to DOE on a regular basis.

In addition to the aforementioned data requirements, the application must incorporate the following:

- The database must be free of charge without licensing restrictions to the general public during the project period; accessible by multiple types of browsers; scalable and dynamic in order to accommodate substantial increases in the volume of data and substantial increase in public access. Proprietary data must not be included in the public database. The awardee must make all data available to the general public in an easily accessible manner and free of user fees, copyrights, and proprietary data.
- A detailed plan to maintain and operate the database after the project period ends, including associated cost estimates. Specific Intellectual Property (IP) clauses relative to the database will be developed during award negotiation based on the plan provided to DOE within the application.
- The database must comply with all data related security regulations including Federal Government security criteria such as FIPS 140-2 and NIST Guidance, along with meeting the Federal government exclusions such as “check-point” firewall programs; and it must meet or exceed current best practices for databases and search engines of this magnitude.
- A plan to: 1) purchase or lease; and 2) maintain and upgrade computer equipment (servers, etc.) during the project period.
- A plan to verify the accuracy and quality of the data upon establishment of the database.

Applicants shall include go/no-go decision points between all Phases. Incremental funding will be provided by Phase, which will be conditional upon a DOE stage gate review of required deliverables within scope, budget, and schedule in prior phases.

PART II – AWARD INFORMATION

A. TYPE OF AWARD INSTRUMENT

- DOE anticipates awarding a cooperative agreement under this program announcement (See Part VI.B.2 Statement of Substantial Involvement).

B. ESTIMATED FUNDING

- Approximately \$1.3 million is expected to be available for this new award in FY 2009 and an additional \$3.7 million is expected to be available the award (conditional upon a positive determination during DOE stage gate reviews) made under this announcement in years FY 2010 through FY 2013 for a total FOA value of \$5.0 million. Funding in FY 2009 through FY 2013 will be subject to the availability of appropriated funds in each of these fiscal years.

C. MAXIMUM AND MINIMUM AWARD SIZE

- Ceiling (i.e., the maximum amount for an individual award made under this announcement): \$5.0 million
- Floor (i.e., the minimum amount for an individual award made under this announcement): None

D. EXPECTED NUMBER OF AWARDS

- DOE anticipates making one award under this announcement.

E. PERIOD OF PERFORMANCE

- DOE anticipates making an award that will run for up to 5 years.

F. TYPE OF APPLICATION

- Only new applications will be accepted under this announcement (e.g., applications for renewals of existing DOE funded projects will not be considered).

PART III - ELIGIBILITY INFORMATION

A. ELIGIBLE APPLICANTS

- Domestic applicants are eligible to apply including institutions of higher education, non-profit and for-profit private entities, State/Local Governments, and Indian tribes. Any of the previously mentioned entities, Federally Funded Research and Development Centers (FFRDCs), and federal agencies will be allowed as subcontractors.

B. COST SHARING

- Cost sharing is not required, but is encouraged and may be used as a Program Policy Factor. See Part V.A.3 "Other Selection Factors".

C. OTHER ELIGIBILITY REQUIREMENTS

- **Federally Funded Research and Development Center (FFRDC) Contractors**

FFRDC contractors are not eligible for an award under this announcement, but they may be proposed as a subcontractor and/or team member on another entity's application subject to the following guidelines:

Authorization for non-DOE FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award.

Authorization for DOE FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

"Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, will not adversely impact execution of the DOE assigned programs at the laboratory."

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other non-DOE FFRDC contractors through an interagency agreement with the sponsoring agency.

Cost Share. Cost sharing is not required, but is encouraged and may be used as a Program Policy Factor (see Part V.A.3 "Other Selection Factors"). If an applicant proposes cost share, it should be based on the total cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

FFRDC Contractor Effort:

- The FFRDC contractor effort, in aggregate, shall not exceed 30% of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

D. MULTIPLE PRINCIPAL INVESTIGATORS

The assignment and use of multiple Principal Investigators (PIs) in projects awarded under this FOA is allowed. The applicant, whether a single organization or team/partnership/consortium, must however indicate in the application if the project will include multiple PI's. The decision to use multiple PIs for a project is the sole responsibility of the applicant. If multiple PI's will be designated, the application must identify in the application the Contact PI/Project Coordinator

and provide a “Coordination and Management Plan” that describes the organization structure of the project as it pertains to the designation of multiple PI’s. This plan should, at a minimum, include:

- Process for making decisions on scientific/technical direction
- Publications;
- Intellectual property issues;
- Communication plans’
- Procedures for resolving conflicts; and
- PI’s roles and administrative, technical and scientific responsibilities for the project

PART IV – APPLICATION AND SUBMISSION INFORMATION

A. ADDRESS TO REQUEST APPLICATION PACKAGE

Application forms and instructions are available on-line at Grants.gov. To access these materials, go to <http://www.grants.gov>, select “Apply for Grants,” and then select “Download Application Package.” Enter the CFDA (81.087) and/or the funding opportunity number (DE-PS36-08GO98020) and then follow the prompts to download the application package. **(Also see Section H of this Part below.)**

B. LETTER OF INTENT AND PRE-APPLICATION

1. Letter of Intent

- Letters of Intent are not required.

2. Pre-application

- A pre-application is not required.

C. CONTENT AND FORM OF APPLICATION

You must complete the mandatory forms and any applicable optional forms, in accordance with the instructions on the forms and the additional instructions below, as required by this FOA. **Files that are attached to the forms must be in Adobe Portable Document Format (PDF) unless otherwise specified in this announcement.**

1. SF 424 - Application for Federal Assistance

Complete this form first to populate data in other forms. Complete all required fields in accordance with the pop-up instructions on the form. **To activate the instructions, turn on the “Help Mode” (Icon with the pointer and question mark at the top of the form.)** The list of certifications and assurances referenced in Field 21 can be found at http://management.energy.gov/business_doe/business_forms.htm, under Certifications and Assurances.

2. Other Attachments Form

Submit the following files with your application and attach them to the Other Attachments Form. (To attach the Project Narrative, click on “Add Mandatory Other Attachment”. To attach all other files, click on “Add Optional Other Attachment”.)

a. Project Summary/Abstract File

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). Applicants are cautioned that this document should not include any proprietary information, trade secrets, or other confidential business, financial or sensitive information, since this summary may be subject to public disclosure under the Freedom of Information Act (FOIA). The project summary must not exceed 1 page when printed using standard 8.5” by 11” paper with 1” margins (top, bottom, left and right) with font not smaller than 11 point. Save this information in a file named “Summary.pdf,” and click on “Add Optional Other Attachment” to attach.

b. Project Narrative File - Mandatory Other Attachment

The project narrative must not exceed 20 pages, including cover page, table of contents, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right). EVALUATORS WILL REVIEW ONLY THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE. The font must not be smaller than 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application. See Part VIII.D for instructions on how to mark proprietary application information. Save the information in a single file named “Project.pdf,” and click on “Add Mandatory Other Attachment” to attach.

The project narrative must include:

- Project Objectives.
This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.
- Merit Review Criterion Discussion.
The section should be formatted to address each of the merit review criterion and sub-criterion listed in Part V. A. below. Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria. DOE WILL EVALUATE AND CONSIDER ONLY THOSE APPLICATIONS THAT ADDRESS SEPARATELY EACH OF THE MERIT REVIEW CRITERION AND SUB-CRITERION.
- Plan to Address Intellectual Property Issues and Data Dissemination.

- Describe how you will ensure that all data contained in the database will be free of intellectual property restrictions (e.g., not copyrighted) throughout the award period.
- Describe how you will disseminate the data to the public throughout the award period without restrictions or fees.
- Describe your plans to continue operating the database after the award period ends including associated cost estimates.

The above listed components of your Project Narrative combined, must be within the Narrative page limit specified above. Documents listed below may be included as clearly marked appendices to your Narrative and will not count towards the Project Narrative page limit. Please note that some of the required documents listed below may have their own page limits to which you must adhere.

c. Letters of Commitment

You must have a letter from each third party (i.e., a party other than the organization submitting the application) participating in the project and/or contributing cost sharing. The letter must state that the third party is committed to participating in the project and/or providing a specific minimum dollar amount of cost sharing. If providing cost share, identify the following information in the budget justification, for each third party contributing cost sharing: (1) the name of the organization; (2) the proposed dollar amount to be provided; (3) the amount as a percentage of the total project cost; and (4) the proposed cost sharing – cash, services, or property. Letters of Commitment from parties participating in the project, exclusive of vendors, will be integral to the success of the project must be included as part of this Appendix to the Narrative. Letters of Commitment will not count towards the Project Narrative page limit. **All Letters of Commitment must be attached to the Project Narrative File.**

d. Resume File

Provide a resume for each key person proposed, including subawardees and consultants if they meet the definition of key person. A key person is any individual who contributes in a substantive, measurable way to the execution of the project. Save all resumes in a single file named “resume.pdf” and click on “Add Optional Other Attachment” to attach. Each resume must not exceed 2 pages when printed on 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right) with font not smaller than 11 point and should include the following information, if applicable:

Education and Training. Undergraduate, graduate and postdoctoral training, provide institution, major/area, degree and year.

Professional Experience: Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

Publications. Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal

title, volume number, page numbers, year of publication, and website address if available electronically.

Patents, copyrights and software systems developed may be provided in addition to or substituted for publications.

Synergistic Activities. List no more than 5 professional and scholarly activities related to the effort proposed.

Of the key personnel identified in this file, indicate the Principal Investigator(s) (PI). If multiple PI's are proposed, the applicant must provide the information indicated in Part III, Section D. as part of this file.

The resume file does not have a page limitation. Save this information in a file named "Resume.pdf," and click on "Add Optional Other Attachment" to attach.

e. Budget File

SF 424A Excel, Budget Information – Non-Construction Programs File

You must provide a cumulative budget for the total project period with details by Phase. Use the SF 424A Excel, "Budget Information – Non Construction Programs" form on the Applicant and Recipient Page at http://management.energy.gov/business.doe/business_forms.htm. You may request funds under any of the Object Class Categories as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (See PART IV, G). Save the information in a single Excel file named "SF424A.xls," and click on "Add Optional Other Attachment" to attach.

f. Budget Justification File

A Budget Justification for SF 424A must be provided for the costs proposed in each Object Class Category/Cost Classification category (e.g., identify key persons and personnel categories and the estimated costs for each person or category; provide a list of equipment and cost of each item; identify proposed subaward/consultant work and cost of each subaward/consultant; describe purpose of proposed travel, number of travelers and number of travel days; list general categories of supplies and amount for each category; and provide any other information needed to support your budget). Provide the name of your federal cognizant/oversight agency, if you have one, and the name and phone number of the individual responsible for negotiating your indirect rates as part of the budget justification, or under the "comments" section of the Indirect tab of the Budget Justification form (the PMC 123.1), if it is used.

The Excel format provided as PMC 123.1, Budget Justification for SF 424A, at <https://www.eere-pmc.energy.gov/forms.aspx>, is recommended but not required for use in providing this budget justification. Save the information in a single file named "BudgetJustification.xls" (or other file name as applicable), and click on "Add

Optional Other Attachment” to attach.

g. Subaward Budget File(s)

You must provide a separate budget (i.e., a cumulative budget for the total project period with details by Phase) for each subawardee that is expected to perform work estimated to be more than \$100,000 or 50 percent of the total work effort (which ever is less). Use the SF 424A Excel for Non Construction Programs. These forms are found on the Applicant and Recipient Page at <https://www.eere-pmc.energy.gov/forms.aspx>. Save each Subaward budget in a separate file. Use up to 10 letters of the subawardee’s name (plus424.xls) as the file name (e.g., ucla424.xls or energyres424.xls). Click on “Add Optional Other Attachment” to attach each file.

A budget justification for each subaward budget is also required. If the SF 424A budget format is used for the application, the format provided as PMC 123.1, Budget Justification for SF 424A, at <https://www.eere-pmc.energy.gov/forms.aspx> is recommended but not required for use in providing this budget justification.

h. Budget for Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable

If an FFRDC contractor is to perform a portion of the work, you must provide a DOE Field Work Proposal in accordance with the requirements in DOE Order 412.1 Work Authorization System. This order and the DOE Field Work Proposal form are available at the following link:

<http://www.management.energy.gov/documents/o4121.pdf>. Use up to 10 letters of the FFRDC name (plus .pdf) as the file name (e.g., lanl.pdf or anl.pdf), and click on “Add Optional Other Attachment” to attach.

i. Authorization for non-DOE or DOE FFRDCs

Save the Authorization for non-DOE or DOE FFRDCs, as specified in Part III.C. Other Eligibility Requirements, in a single file named “FFRDC_Auth.pdf” and click on “Add Optional Other Attachment” to attach.

j. Project Management Plan

This plan should identify the activities/tasks to be performed, a time schedule for the accomplishment of the activities/tasks, the spending plan associated with the activities/tasks, and the expected dates for the release of outcomes. Applicants may use their own project management system to provide this information. This plan should identify any decision points and go/no-go decision criteria. Successful applicants must use this plan to report schedule and budget variances. Save this plan in a single file named “pmp.pdf” and click on “Add Optional Other Attachments” to attach.

k. SF-LLL Disclosure of Lobbying Activities

If applicable, complete SF- LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying." The form is available in the optional document box on the grant application package page of grants.gov.

Summary of Required Forms/Files

Your application must include the following documents:

Name of Document	Format	File Name
SF 424 - Application for Federal Assistance	PDF	See Instructions
Other Attachments Form: Attach the following files to this form:	PDF	See Instructions
Project Summary/Abstract File	PDF	Summary.pdf
Project Narrative File, including Project Objectives, Merit Review Criterion Discussion, and Plan to Address Intellectual Property Issues and Data Dissemination. Also, attach Letter(s) of Commitment as an Appendix.	PDF	Project.pdf
Resume File	PDF	Resume.pdf
SF 424A Excel – Budget Information for Non-Construction Programs File	Excel	SF424A.xls
Budget Justification File	As applicable	See Instructions
Subaward Budget File(s), if applicable	Excel	See Instructions
Budget for Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable.	PDF	See instructions
Authorization from cognizant Contracting Officer for FFRDC, if applicable.	PDF	FFRDC_Auth.pdf
Project Management Plan (PMP)	PDF	pmp.pdf
SF-LLL Disclosure of Lobbying Activities, if applicable	PDF	SF-LLL.pdf

D. SUBMISSIONS FROM SUCCESSFUL APPLICANTS

If selected for award, DOE reserves the right to request additional or clarifying information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)
- Commitment Letter from Third Parties Contributing to Cost Sharing, if applicable
- Environmental Questionnaire

E. SUBMISSION DATES AND TIMES

Pre-application Due Date

- Pre-applications are not required.

Application Due Date

- Applications must be received by February 3, 2009, 11:59 PM Eastern Time. You are encouraged to transmit your application well before the deadline. The grants.gov Helpdesk is NOT available after 9:00 PM Eastern Time. **APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.**

F. INTERGOVERNMENTAL REVIEW

- This program is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

G. FUNDING RESTRICTIONS

Cost Principles. Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR Part 600. The cost principles for commercial organization are in FAR Part 31.

Pre-award Costs. Recipients may charge to an award resulting from this announcement pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. Recipients must obtain the prior approval of the contracting officer for any pre-award costs that are for periods greater than this 90 day calendar period.

Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

H. SUBMISSION AND REGISTRATION REQUIREMENTS

1. Where to Submit

APPLICATIONS MUST BE SUBMITTED THROUGH GRANTS.GOV, VIA THIS ANNOUNCEMENT, TO BE CONSIDERED FOR AWARD. You cannot submit an application through Grants.gov unless you are registered. Please read the registration requirements below carefully and start the process immediately.

Submit electronic applications through the “Apply for Grants” function at www.Grants.gov. If you have problems completing the registration process or submitting your application, call Grants.gov at 1-800-518-4726 or send an email to support@grants.gov. A troubleshooting page is also available at http://www.grants.gov/help/trouble_tips.jsp.

2. Registration Process Requirements

There are several one-time actions you must complete in order to submit an application through Grants.gov: 1) obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (<http://www.dnb.com/us/>); 2) register with the Central Contract Registry (CCR) <http://www.ccr.gov> ; 3) register with Grants.gov; and 4) register with the credential provider.

See http://www.grants.gov/applicants/get_registered.jsp. Use the Grants.gov Organization Registration Checklist at <http://www.grants.gov/section3/OrganizationRegCheck.pdf> to guide you through the DUNS number, grants.gov and CCR registration process.

IMPORTANT: During the CCR registration process, you will be asked to designate an E-Business Point of Contact (EBIZ POC). The EBIZ POC must obtain a special password called “Marketing Partner identification Number” (MPIN).

Applicants, who are not registered with CCR and Grants.gov, should allow at least 21 days to complete these requirements, as you must COMPLETE ALL STEPS of the one-time registration process before you can submit your first application through Grants.gov. **When you have completed the process, you should call the Grants.gov Helpdesk at 1-800-518-4726 to verify that you have completed the final step (i.e. Grants.gov registration).**

DOE is soon moving to an electronic procurement system for both acquisition and financial assistance. As a result of this, it is highly recommended that all financial assistance applicants should also register with FedConnect. The URL for the FedConnect site is <https://www.FedConnect.net/FedConnect/>. There is a “quick start guide further into this site, at https://www.FedConnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf, with which you should familiarize yourself on the electronic procurement system environment to come shortly.

Microsoft Vista and Office 2007 Compatibility

Grants.gov is currently incompatible with both the new Microsoft (MS) Vista Operating System and the new Microsoft (MS) Office 2007 versions of Word, Excel, and Power Point. In order to create and submit your application to Grants.gov, you must find a computer with a previous version Microsoft Operating System, such as Windows XP.

If you attach a file created using MS Office 2007, you will not get an error message when you submit the application, and, your entire application will not be able to be processed or accepted at Grants.gov and will not reach DOE. Grants.gov can accept applications with attachments created in MS Office 2007 if the attachments are saved in the prior format. See the http://www.grants.gov/assets/Vista_and_office_07_Compatibility.pdf for detailed instructions on how to do this. A file created in MS Office 2007 can be identified by the "x" at the end of the file extension, for example "sample.docx" for a Word file. Contact Grants.gov at 1-800-518-4726 with any questions.

3. Questions

ALL Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. Part VII, Section A. of this announcement explains how to submit other questions to the Department of Energy (DOE), relative to the content and requirements of this announcement.

4. Application Receipt Notices

After an application is submitted, the Authorized Organization Representative (AOR) will receive a series of five e-mails. It is extremely important that the AOR watch for and save each of the emails. It may take up to 2 business days from application submission to receipt of email Number 2. You will know that your application has reached DOE when the AOR receives email Number 5. You will need the Submission Receipt Number (email Number 1) to track a submission. The titles of the five e-mails are:

Number 1 - Grants.gov Submission Receipt Number

Number 2 - Grants.gov Submission Validation Receipt for Application Number

Number 3 - Grants.gov Grantor Agency Retrieval Receipt for Application Number

Number 4 - Grants.gov Agency Tracking Number Assignment for Application Number

Number 5 - DOE e-Center Grant Application Received

The last email will contain instructions for the AOR to register with the DOE e-Center. If the AOR is already registered with the DOE e-Center, the title of the last email changes to: Number 5 – DOE e-Center Grant Application Received and Matched.

This email will contain the direct link to the application in IIPS. The AOR will need to enter their DOE e-Center user id and password to access the application.

PART V - APPLICATION REVIEW INFORMATION

A. REVIEW CRITERIA

1. Initial Review Criteria

- Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement. If an application fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

2. Merit Review Criteria

Applications will be evaluated against the merit review criteria shown below.

Criterion 1: Project Description and Implementation Plan Weight: [30%]

- Adequacy and completeness of the statement of project objectives in addressing all Phases including database proof of concept, prototype, establishment, and operation/maintenance as well as classification system and interactive mapping capability
- Adequacy of the proposed plan to continue operation of the database beyond the project period following expenditure of DOE funds
- Demonstrated understanding of critical success factors and institutional barriers associated with creation and operation of the database including validity of data sources
- Clarity, adequacy and completeness of the project plan's schedule, milestones, quantitative success targets, and deliverables
- Adequacy of the proposed database/classification system to provide industry and investors with a user-friendly, interactive system to identify U.S. geothermal resource opportunities and thereby mitigate upfront risks associated with the geothermal identification and exploration process with the capability for database expansion in the future

Criterion 2: Data Collection, Maintenance, and Dissemination Plan

Weight: [35%]

- Adequacy of the plan to collect and maintain reliable, accurate and comprehensive data relative to all types of geothermal resources such as hydrothermal, geopressured, Enhanced Geothermal Systems (EGS), geothermal fluids coproduced with oil and/or gas, etc.
- Adequacy of the plan to include geothermal resource, power plant, and institutional barrier data from domestic sources (and international sources, when relevant to advancing the commercialization of domestic resources)

- Adequacy of the plan to include critical geothermal site information and organize data using a set of common metrics such that sites with the best potential can be identified
- Demonstrated understanding of data-related security regulations including Federal Government security criteria such as FIPS 140-2 and NIST Guidance
- Comprehensiveness of the plan to disseminate data and information to the public and private industry stakeholders without restrictions or fees during the project period

Criterion 3: Qualifications and Resources

Weight: [35%]

- Demonstrated capabilities, experience, qualifications, and credentials of personnel, including the credibility of applicant's experience and record of success in efforts related to database development/operations/maintenance and data evaluation and analysis
- Quality of multi-disciplinary teaming including institutions of higher education, industry, trade organizations, federal and state agencies, State/Local Governments, Indian tribes, FFRDCs, etc.
- Demonstrated support of team members via letters of commitment
- Adequacy of the plan to purchase or lease, maintain and upgrade computer equipment (servers, etc.) as necessary
- Demonstrated ability to manage national collaborative efforts related to energy issues

3. Other Selection Factors

The selection official may consider the following program policy factors in the selection process:

1. Proposed cost share
2. Diversity of the applicant's teaming arrangement with other entities

B. REVIEW AND SELECTION PROCESS

a. Merit Review

Applications that pass the initial review will undergo a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals." This guide is at <http://www.management.energy.gov/documents/meritrev.pdf>.

It is very important that those documents, Project Abstract and Project Narrative file, that will be used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

b. Selection

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available.

c. Discussions and Award

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

- DOE anticipates notifying the applicant selected for award by **the end of April 2009** and making the award by **the end of May 2009**.

PART VI - AWARD ADMINISTRATION INFORMATION

A. AWARD NOTICES

1. Notice of Selection

DOE will notify the applicant selected for award. This notice of selection is not an authorization to begin performance. (See Part IV.G with respect to the allowability of pre-award costs.)

Organizations whose applications have not been selected will be advised as promptly as possible. This notice will explain why the application was not selected.

2. Notice of Award

A Notice of Financial Assistance Award issued by the contracting officer is the authorizing award document. It normally includes, either as an attachment or by reference: (1) Special Terms and Conditions; (2) Applicable program regulations, if any; (3) Application as approved by DOE; (4) DOE assistance regulations at 10 CFR part 600, or, for Federal Demonstration Partnership (FDP) institutions, the FDP terms and conditions; (5) National Policy Assurances To Be Incorporated As Award Terms; (6) Budget Summary; (7) Federal Assistance Reporting Checklist, which identifies the reporting requirements; and (8) Statement of Project Objectives.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

1. Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR part 600 (See: <http://ecfr.gpoaccess.gov>), except for grants made to Federal Demonstration Partnership (FDP) institutions. The FDP terms and conditions and DOE FDP agency specific terms and conditions are located on the National Science Foundation web site at http://www.nsf.gov/awards/managing/fed_dem_part.jsp.

2. Special Terms and Conditions and National Policy Requirements

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at <http://www.management.energy.gov/documents/specialtermsandcondition308.pdf>. The National Policy Assurances To Be Incorporated As Award Terms are located at http://management.energy.gov/business_doe/1374.htm.

3. Intellectual Property Provisions

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at http://www.gc.doe.gov/financial_assistance_awards.htm.

4. **Statement of Substantial Involvement:** DOE will be substantially involved in data requirements development, data quality verification, and development of database platform security.

C. REPORTING

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement. The proposed Checklist for this program can be found at https://www.eere-pmc.energy.gov/procurenet/FinancialAssistance/Forms/DOE_Forms/DOEF4600_2.doc.

Additionally, the award made under this FOA will be subject to an Annual Peer Review.

PART VII - QUESTIONS/AGENCY CONTACTS

A. QUESTIONS

Questions regarding the content of the announcement must be submitted through the “Submit Question” feature of the DOE Industry Interactive Procurement System (IIPS) at <http://e-center.doe.gov>. Locate the program announcement on IIPS and then click on the “Submit Question” button. Enter required information. You will receive an electronic notification that your question has been answered. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website. Potential applicants are encouraged to read all posted Q&A prior to posting a new question.

Questions relating to the registration process, system requirements, how an application form works, or the submittal process are not answered via the DOE IIPS “submit question” feature, and must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. DOE cannot answer these questions. (See Part IV, Section H.)

B. AGENCY CONTACT(S)

Name: Pete Simon

E-mail: go.geothermal@go.doe.gov

All questions should be submitted through the “Submit Question” feature of IIPS. (See Section A of this Part, above.)

PART VIII - OTHER INFORMATION**A. MODIFICATIONS**

Notices of any modifications to this announcement will be posted on Grants.gov and the DOE Industry Interactive Procurement System (IIPS). You can receive an email when a modification or an announcement message is posted by joining the mailing list for this announcement through the link in IIPS. When you download the application at Grants.gov, you can also register to receive notifications of changes through Grants.gov.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

D. PROPRIETARY APPLICATION INFORMATION

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

“The data contained in pages ____ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit

the government's right to use or disclose data obtained without restriction from any source, including the applicant."

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

"The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation."

E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM

Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See "Notice of Right to Request Patent Waiver" in paragraph G below.)

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE's own needs or to insure the commercialization of technology developed under a DOE agreement.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

I. NOTICE OF RIGHT TO CONDUCT A REVIEW OF FINANCIAL CAPABILITY

DOE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

J. NOTICE OF POTENTIAL DISCLOSURE UNDER FREEDOM OF INFORMATION ACT

Applicants are advised that identifying information regarding all applicants, including applicant names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such applicants are selected for negotiation of award.

APPENDICIES/REFERENCE MATERIAL

Appendix A – Definitions

“Amendment” means a revision to a Funding Opportunity Announcement

"Applicant" means the legal entity or individual signing the Application. This entity or individual may be one organization or a single entity representing a group of organizations (such as a Consortium) that has chosen to submit a single Application in response to a Funding Opportunity Announcement.

"Application" means the documentation submitted in response to a Funding Opportunity Announcement. NOTE: Application is referred to as Proposal in IIPS.

“Authorized Organization Representative (AOR)” is the person with assigned privileges who is authorized to submit grant applications through Grants.gov on behalf of an organization. The privileges are assigned by the organization’s E-Business Point of Contact designated in the CCR.

"Award" means the written documentation executed by a DOE Contracting Officer, after an Applicant is selected, which contains the negotiated terms and conditions for providing Financial Assistance to the Applicant. A Financial Assistance Award may be either a Grant or a Cooperative Agreement.

"Budget" means the cost expenditure plan submitted in the Application, including both the DOE contribution and the Applicant Cost Share.

"Consortium (plural consortia)" means the group of organizations or individuals that have chosen to submit a single Application in response to a Funding Opportunity Announcement.

"Contracting Officer" means the DOE official authorized to execute Awards on behalf of DOE and who is responsible for the business management and non-program aspects of the Financial Assistance process.

"Cooperative Agreement" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and Substantial Involvement (see definition below) is anticipated between DOE and the Applicant during the performance of the contemplated activity.

"Cost Sharing" means the respective share of Total Project Costs to be contributed by the Applicant and by DOE. The percentage of Applicant Cost Share is to be applied to the Total Project Cost (i.e., the sum of Applicant plus DOE Cost Shares) rather than to the DOE contribution alone.

“Central Contractor Registry (CCR)” is the primary database which collects, validates, stores and disseminates data in support of agency missions. Funding Opportunity Announcements

which require application submission through Grants.gov require that the organization first be registered in the CCR at <http://www.grants.gov/CCRRegister>.

“Credential Provider” is an organization that validates the electronic identity of an individual through electronic credentials, PINS, and passwords for Grants.gov. Funding Opportunity Announcements which require application submission through Grants.gov require that the individual applying on behalf of an organization first be registered with the Credential Provider at <https://apply.grants.gov/OrcRegister>.

“Data Universal Numbering System (DUNS) Number” is a unique nine-character identification number issued by Dun and Bradstreet (D&B). Organizations must have a DUNS number prior to registering in the CCR. Call 1-866-705-5711 to receive one free of charge. http://www.grants.gov/applicants/request_duns_number.jsp

“E-Business Point of Contact (POC)” is the individual who is designated as the Electronic Business Point of Contact in the CCR registration. This person is the sole authority of the organization with the capability of designating or revoking an individual’s ability to submit grant applications on behalf of their organization through Grants.gov.

“E-Find” is a Grants.gov webpage where you can search for Federal Funding Opportunities in FedGrants. <http://www.grants.gov/search/searchHome.do>

“Enhanced Geothermal Systems (EGS)” is defined as cost-effective methods of transforming geothermal resources that lack adequate water and/or rock permeability into functional hydrothermal reservoirs.

"Financial Assistance" means the transfer of money or property to an Applicant or Participant to accomplish a public purpose of support authorized by Federal statute through Grants or Cooperative Agreements and sub-awards. For DOE, it does not include direct loans, loan guarantees, price guarantees, purchase agreements, Cooperative Research and Development Agreements (CRADAs), or any other type of financial incentive instrument.

“Federally Funded Research and Development Center (FFRDC)” means a research laboratory as defined by Federal Acquisition Regulation 35.017.

“Funding Opportunity Announcement (FOA)” is a publicly available document by which a Federal agency makes known its intentions to award discretionary grants or cooperative agreements, usually as a result of competition for funds. Funding opportunity announcements may be known as program announcements, notices of funding availability, solicitations, or other names depending on the agency and type of program.

“Geothermal” refers to the stored thermal energy in, or heat produced from, the Earth’s interior.

“Geothermal Resources” are defined as geothermal conditions where the technology exists to use the stored thermal energy to either produce electricity or for direct use, e.g., space heating, district heating, snow melting, aquaculture, etc.

"Grant" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and no Substantial Involvement is anticipated between DOE and the Applicant during the performance of the contemplated activity.

"Grants.gov" is the "storefront" web portal which allows organizations to electronically find and apply for competitive grant opportunities from all Federal grant-making agencies. Grants.gov is THE single access point for over 900 grant programs offered by the 26 Federal grant-making agencies. <http://www.grants.gov>

"Hydrothermal Resources" are defined as those geothermal resources that contain sufficient heat, fluid and permeability to be commercially productive using existing drilling, reservoir engineering and power conversion technologies; are currently being produced.

"Industry Interactive Procurement System (IIPS)" is DOE's Internet-based procurement system which allows access to DOE's business opportunities database, allows user registration and submittal of Applications: <http://e-center.doe.gov/>.

"Key Personnel" means the individuals who will have significant roles in planning and implementing the proposed Project on the part of the Applicant and Participants, including FFRDCs.

"Marketing Partner Identification Number (MPIN)" is a very important password designated by your organization when registering in CCR. The E-Business Point of Contact will need the MPIN to login to Grants.gov to assign privileges to the individual(s) authorized to submit applications on behalf of your organization. The MPIN must have 9 digits containing at least one alpha character (must be in capital letters) and one number (no spaces or special characters permitted).

"Participant" for purposes of this Funding Opportunity Announcement only, means any entity, except the Applicant substantially involved in a Consortium, or other business arrangement (including all parties to the Application at any tier), responding to the Funding Opportunity Announcement.

"Principal Investigator" refers to the technical point of contact/Project Manager for a specific project award.

"Project" means the set of activities described in an Application, State plan, or other document that is approved by DOE for Financial Assistance (whether such Financial Assistance represents all or only a portion of the support necessary to carry out those activities).

"Proposal" is the term used in IIPS meaning the documentation submitted in response to a Funding Opportunity Announcement. Also see Application.

"Recipient" means the organization, individual, or other entity that receives a Financial Assistance Award from DOE, is financially accountable for the use of any DOE funds or property provided for the performance of the Project, and is legally responsible for carrying out the terms and condition of the award.

"Selection" means the determination by the DOE Selection Official that negotiations take place for certain Projects with the intent of awarding a Financial Assistance instrument.

"Selection Official" means the DOE official designated to select Applications for negotiation toward Award under a subject Funding Opportunity Announcement.

"Substantial Involvement" means involvement on the part of the Government. DOE's involvement may include shared responsibility for the performance of the Project; providing technical assistance or guidance which the Applicant is to follow; and the right to intervene in the conduct or performance of the Project. Such involvement will be negotiated with each Applicant prior to signing any agreement.

"Total Project Cost" means all the funds to complete the effort proposed by the Applicant, including DOE funds (including direct funding of any FFRDC) plus all other funds that will be committed by the Applicant as Cost Sharing.

Appendix B – Personally Identifiable Information

In responding to this Announcement, Applicants must ensure that Protected Personally Identifiable Information (PII) is not included in the following documents: Project Abstract, Project Narrative, Biographical Sketches, Budget or Budget Justification. These documents will be used by the Merit Review Committee in the review process to evaluate each application. PII is defined by the Office of Management and Budget (OMB) and DOE as:

Any information about an individual maintained by an agency, including but not limited to, education, financial transactions, medical history, and criminal or employment history and information that can be used to distinguish or trace an individual's identity, such as their name, social security number, date and place of birth, mother's maiden name, biometric records, etc., including any other personal information that is linked or linkable to an individual.

This definition of PII can be further defined as: (1) Public PII and (2) Protected PII.

1. **Public PII:** PII found in public sources such as telephone books, public websites, business cards, university listing, etc. Public PII includes first and last name, address, work telephone number, email address, home telephone number, and general education credentials.
2. **Protected PII:** PII that requires enhanced protection. This information includes data that if compromised could cause harm to an individual such as identity theft.

Listed below are examples of Protected PII that Applicants must not include in the files listed above to be evaluated by the Merit Review Committee.

- Social Security Numbers in any form
- Place of Birth associated with an individual
- Date of Birth associated with an individual
- Mother's maiden name associated with an individual
- Biometric record associated with an individual
- Fingerprint
- Iris scan
- DNA
- Medical history information associated with an individual
- Medical conditions, including history of disease
- Metric information, e.g. weight, height, blood pressure
- Criminal history associated with an individual
- Employment history and other employment information associated with an individual
- Ratings
- Disciplinary actions
- Performance elements and standards (or work expectations) are PII when they are so intertwined with performance appraisals that their disclosure would reveal an individual's performance appraisal

- Financial information associated with an individual
- Credit card numbers
- Bank account numbers
- Security clearance history or related information (not including actual clearances held)

Listed below are examples of Public PII that Applicants may include in the files listed above to be evaluated by the Merit Review Committee:

- Phone numbers (work, home, cell)
- Street addresses (work and personal)
- Email addresses (work and personal)
- Digital pictures
- Medical information pertaining to work status (i.e. individual A is out sick today)
- Medical information included in a health or safety report
- Employment information that is not PII even when associated with a name
- Resumes, unless they include a Social Security Number
- Present and past position titles and occupational series
- Present and past grades
- Present and past annual salary rates (including performance awards or bonuses, incentive awards, merit pay amount, Meritorious or Distinguished Executive Ranks, and allowances and differentials)
- Present and past duty stations and organization of assignment (includes room and phone numbers, organization designations, work email address, or other identifying information regarding buildings, room numbers, or places of employment)
- Position descriptions, identification of job elements, and those performance standards (but not actual performance appraisals) that the release of which would not interfere with law enforcement programs or severely inhibit agency effectiveness
- Security clearances held
- Written biographies (e.g. to be used in a program describing a speaker)
- Academic credentials
- Schools attended
- Major or area of study
- Personal information stored by individuals about themselves on their assigned workstation or laptop unless it contains a Social Security Number

FINANCIAL ASSISTANCE FUNDING OPPORTUNITY ANNOUNCEMENT



U.S. Department of Energy Geothermal Technologies Program

**Electric Power Generation Using Geothermal Fluid Coproduced from
Oil and/or Gas Wells**

Funding Opportunity Number: DE-PS36-07GO97033

Announcement Type: Initial

CFDA Number: 81.087

Issue Date: 06/13/2007

Application Due Date: 07/31/2007, 11:59 PM Eastern Time

NOTE: REQUIREMENTS FOR GRANTS.GOV

Where to Submit

Applications must be submitted through Grants.gov to be considered for award. You cannot submit an application through Grants.gov unless you are registered. Please read the registration requirements carefully and start the process immediately. Remember you have to update your CCR registration annually. If you have any questions about your registration, you should contact the Grants.gov Helpdesk at 1-800-518-4726 to verify that you are still registered in Grants.gov.

Registration Requirements

There are several one-time actions you must complete in order to submit an application through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), register with the credential provider, and register with Grants.gov). See <http://www.grants.gov/GetStarted>. Use the Grants.gov Organization Registration Checklist at <http://www.grants.gov/section3/OrganizationRegCheck.pdf> to guide you through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in the CCR registration process. Applicants, who are not registered with CCR and Grants.gov, should allow at least 21 days to complete these requirements.

IMPORTANT NOTICE TO POTENTIAL APPLICANTS: When you have completed the process, you should call the Grants.gov Helpdesk at 1-800-518-4726 to verify that you have completed the final step (i.e. Grants.gov registration).

Questions

Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. Part VII of this announcement explains how to submit other questions to the Department of Energy (DOE).

Application Receipt Notices

After an application is submitted, the Authorized Organization Representative (AOR) will receive a series of five e-mails. It is extremely important that the AOR watch for and save each of the emails. It may take up to 2 business days from application submission to receipt of email Number 2. You will know that your application has reached DOE when the AOR receives email Number 5. You will need the Submission Receipt Number (email Number 1) to track a submission. The titles of the five e-mails are:

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to: Number 5 – DOE e-Center Grant Application Received and Matched. This email will contain the direct link to the application in IIPS. The AOR will need to enter their DOE e-Center user id and password to access the application.

VERY IMPORTANT – Download PureEdge Viewer

In order to download the application package, you will need to install PureEdge Viewer. This small, free program will allow you to access, complete, and submit applications electronically and securely. For a free version of the software, visit the following web site: <http://www.grants.gov/DownloadViewer>.

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PART I – FUNDING OPPORTUNITY DESCRIPTION

A. Background

The mission and activities of the Geothermal Technologies Program (GTP) directly support the Department of Energy's (DOE's) mission to promote scientific and technological innovation in support of advancing the national, economic and energy security of the United States. The Program's activities are organized to support both technology development and technology application. That is, the Program has some involvement in all stages of its products' evolutionary cycle: from problem formulation to basic and applied research to field-testing of prototypes to final deployment in the marketplace. Industry plays a key role as a cost-sharing partner in the cycle, especially as products move toward deployment.

B. Compliance with DOE Strategic Plan

DOE's mission is to promote America's energy security through reliable, clean, and affordable energy. GTP's contributions are directed toward DOE Strategic Theme 1, Goal 1.1 (Energy Diversity) by increasing the flexibility of the energy market to meet national needs and to Goal 1.4 (Energy Productivity) by improving the cost-effectiveness of electric power generation using geothermal fluids coproduced from oil and/or gas wells. DOE works in partnership with U.S. industry to establish geothermal energy as an economically competitive contributor to the U.S. energy supply.

The GTP's main focus is to enhance energy security via supply growth and diversification. Energy security focuses on developing new and more cost-effective technologies through research and development. The technologies developed by this program could provide the nation with new sources of electricity that are highly reliable and cost competitive. Over the past decade, GTP has yielded technological advances that have brought lower temperature geothermal resources into the competitive range for power production.

C. Statutory Considerations

This FOA is authorized under Section 931(a)(2)(C) of the Energy Policy Act of 2005.

D. Project Description

Geothermal energy is the heat from the Earth. It is clean, sustainable, and renewable. Resources of geothermal energy range from the shallow ground to hot water and hot rock found a few miles beneath the Earth's surface, and down even deeper to the extremely high temperatures of molten rock called magma. The Department of Energy's Geothermal Technologies Program supports the U.S. geothermal industry in providing diversity, and therefore security, in domestic energy supply options. This support also helps the industry maintain its technical edge in world energy markets, thereby enhancing exports of U.S. goods and services and U.S. job growth.

Since 2004, several analyses¹ have shown a near-term potential for more than 5,000 MWe of

1. Jeff Tester et al. 2006. "[The Future of Geothermal Energy](#): Impact of Enhanced Geothermal Systems on the United States in the 21st Century." Massachusetts Institute of Technology.
Bruce Green and Gerry Nix. 2006. "[Geothermal - The Energy Under Our Feet](#), [Geothermal Resources of the United States](#)." National Renewable Energy Laboratory.
R.J. Curtice and E.D. Dalrymple. 2004. "Just the Cost of Doing Business." *World Oil*.

developable electric power generation by 2015 using geothermal fluids coproduced from existing oil and/or gas wells. Information on geothermal generation and capacity is available through the Energy Information Administration at:
<http://www.eia.doe.gov/cneaf/solar.renewables/page/geothermal/geothermal.html> .

E. DOE Objective

DOE's objective in offering this funding opportunity is to demonstrate the technical feasibility and economics of generating electricity from the naturally occurring geothermal fluids that are coproduced from oil and/or gas wells. To accomplish this, DOE would like to collaborate with leaseholders, developers, owners, operators, and/or other partners (please reference Appendix A, *Definitions*) on projects to install, operate, and report on the performance of geothermal power generation projects operating on the hot water portion of fluids coproduced from oil and/or gas wells. Specifically, DOE is interested in providing financial assistance to several projects.

F. Application Requirements

Applicants must include clear and complete sections detailing Technical, Non-Technical, and Technology Transfer Considerations. Applications will be evaluated according to the criteria in Part V according to the table below:

<u>Criterion</u>	<u>Weight</u>
1: Technical Considerations	40%
2: Non-Technical Considerations	30%
3: Technology Transfer Considerations	30%

The **Technical Considerations** section for projects funded through this funding opportunity must provide clear and concise information including but not limited to:

- Statement of Project Objectives;
- Geologic/geothermal reservoir data for the proposed project;
- Map showing proposed location and layout of wells, above-ground piping, and associated equipment for the project;
- Actual characteristics of each well or separator that is proposed as a source of geothermal fluid, including:
 - Temperature;
 - Flow rate;
 - Quantitative analysis of produced fluids, including chemical analyses of water cuts and oil /natural gas; and
 - Formation and depth from which the fluid is produced;
- Estimated characteristics of each well or other facility that is proposed for disposal of produced fluids, including:
 - Temperature;
 - Flow rate;
 - Quantitative analysis of fluids, including chemical analyses; and
 - Body of water or formation and depth receiving the disposed fluid;
- Modifications to the wellhead and/or surface systems, if necessary (**existing production and injection wells must be able to be re-entered without conducting well maintenance operations at the time of application submittal**);
- Operational performance data from any previously tested units;

- Make, model, and projected net power production of the proposed power plant;
- Proposed power cycle including but not limited to process schematic² with stream state points at inlet and outlet of major components;
- Handling and disposal of power plant working fluid;
- Plans for water treatment and cleaning of scaled or fouled surfaces; and
- Nature of cooling water supply (if used).

The **Non-Technical Considerations** section for projects funded through this funding opportunity must provide clear and concise information including but not limited to:

- Arrangements between leaseholders, developers, owners, operators, and/or others, including proof that all surface and/or subsurface rights including rights to utilize the geothermal resource and the oil and/or gas wells have been secured by the appropriate parties;
- Proof of ability to provide the non-Federal share of project costs;
- Status of regulatory and environmental permitting required for the project;
- Arrangements for distribution/use of power including Power Purchase Agreement (PPA), if applicable;
- Pro forma applicable to a fully commercial project (not including federal cost share, equipment discounts, etc.) including taxes, royalties, lease payments, renewable energy credits, production tax credits, etc.;
- Cost/benefit analysis including project benefits and impacts, and avoided cost of electricity;
- Bill of Materials (BOM) with identification of long-lead items;
- Deliverables;
- Key personnel; and
- Project schedule, milestones, stage gates, go/no go decisions, etc.

The **Technology Transfer Considerations** section for projects funded through this funding opportunity must provide clear and concise information including but not limited to:

- Plan to report project data to DOE; and
- Plan for information dissemination and technology transfer (including but not limited to papers, webcasts, site visits, press releases) to industry and others.

This funding opportunity will offer financial assistance for projects which will be comprised of the following two phases:

Phase I – Engineering, Procurement, Construction (EPC)

The objectives of Phase I are to engineer, procure equipment for, and construct the geothermal power plant and associated above-ground geothermal fluid supply/disposal system at an operating oil and/or gas field.

Phase II – Operation & Maintenance (O&M)

The objectives of Phase II are to operate the power plant and fluid supply/disposal system for a period of two years and to report on their economic, performance, and operating characteristics.

2. If the power plant technology is proprietary, please identify it as such in the application, and DOE will protect the information per DOE regulations; and please provide the numbers of any patents that are helpful in understanding the technology's principles of operation.

G. Initial Review Criteria

Important prerequisites to qualify for funding include all of the following:

- Applicants must demonstrate rights to surface and subsurface resources including rights to utilize the geothermal resource and the oil and/or gas wells for the full duration of the project period.
- Coproduced fluids must be heated **ONLY** in-situ by a naturally occurring geothermal heat source.
- Applicants must agree to provide DOE with the required specific economic and technical data for the life of the project and must agree to provide DOE with reasonable access to the project site.

H. Other Information

Descriptions of words and phrases used throughout this document may be found in Appendix A, *Definitions*.

Do not include any Personally Identifiable Information (PII) in the application as defined in Appendix B, *Personally Identifiable Information*.

Projects funded under this FOA will be classified as “Demonstration” projects with a 50% recipient cost share requirement. More information concerning cost share can be found in Appendix C, *Cost Share Information*. Augmentation of existing surface infrastructure does not constitute a construction project – therefore, do not include any construction related forms (including SF-424C).

Additional information on the specific economic and technical data required by DOE can be found in Appendix D, *Important Supplemental Information for Applicants*.

Applicants must complete the NEPA environmental questionnaire, which includes completing Parts I and II of the EF1 Environmental Checklist form (**DOE Project Officer: Jay Nathwani**) and providing construction/operation/regulatory permits already obtained for the project. Applicants should describe the extent of environmental benefits and impacts resulting from the proposed project including assumptions and quantitative data – please provide as much information as possible on topics including, but not limited to, cultural and biological resources, handling/disposal of geothermal and power plant working fluids, transmission lines, and site restoration. The EF1 and permits **must be submitted online at** <https://www.eere-pmc.energy.gov/NEPA.asp>. Follow the instructions for First Time Users. In addition to submitting the EF1 and permits online, print the EF1, scan to a PDF file with the permits, **and submit as a PDF document with electronic applications through** www.Grants.gov. Then, the environmental information will be evaluated and ranked according to relevant statements in Criterion 2: Non-Technical Considerations.

Applicants must provide a separate SF-424 Research and Related (R&R) budget for each subawardee that is expected to perform work estimated to be more than \$100,000 or 50 percent of the total work effort (whichever is less).

Applications must be received by July 31, 2007, 11:59 PM Eastern Time. Applicants are encouraged to transmit applications well before the deadline. The Grants.gov Helpdesk is not available after 9:00 PM Eastern Time. **APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.**

- Applicants must **COMPLETE** the one-time registration process before submitting their first application through Grants.gov (See www.grants.gov/GetStarted). **We recommend that you start this process at least three weeks before the application due date.** It may take 21 days or more to complete the entire process.
- Questions regarding the content of the announcement must be submitted through the “Submit Question” feature of the DOE Industry Interactive Procurement System (IIPS) at <http://e-center.doe.gov>. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.
- Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. DOE cannot answer these questions.

PART II – AWARD INFORMATION

A. TYPE OF AWARD INSTRUMENT.

- DOE anticipates awarding grants under this program announcement.

B. ESTIMATED FUNDING.

- Approximately \$2,400,000 is expected to be available for new awards under this announcement.

C. MAXIMUM AND MINIMUM AWARD SIZE.

- Ceiling (i.e., the maximum federal share for an individual award made under this announcement): \$2,400,000
- Floor (i.e., the minimum federal share for an individual award made under this announcement): \$0 (no minimum)

D. EXPECTED NUMBER OF AWARDS.

- DOE anticipates making several awards under this announcement.

E. ANTICIPATED AWARD SIZE.

- DOE anticipates that awards will be in the \$1,200,000 range for the total project period.

F. PERIOD OF PERFORMANCE.

- DOE anticipates making awards that will run for up to 3 years.

PART III - ELIGIBILITY INFORMATION

A. ELIGIBLE APPLICANTS.

- All types of domestic entities are eligible to apply, except other Federal agencies, Federally Funded Research and Development Center (FFRDC) Contractors, and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995. FFRDC Contractors are also not eligible to be partners for projects under this announcement.

B. COST SHARING.

- The cost share must be at least 50% of the total allowable costs for demonstration and commercial application projects (i.e., the sum of the Government share and the recipient share of allowable costs equals the total allowable cost of the project) and must

come from non-Federal sources unless otherwise allowed by law. More information concerning cost share can be found in Appendix C, *Cost Share Information*.

PART IV – APPLICATION AND SUBMISSION INFORMATION

A. ADDRESS TO REQUEST APPLICATION PACKAGE.

Application forms and instructions are available at Grants.gov. To access these materials, go to <http://www.grants.gov>, select “Apply for Grants,” and then select “Download Application Package.” Enter the CFDA and/or the funding opportunity number located on the cover of this announcement and then follow the prompts to download the application package. **NOTE:** You will not be able to download the Application Package unless you have installed PureEdge Viewer (See: <http://www.grants.gov/DownloadViewer>).

B. LETTER OF INTENT AND PRE-APPLICATION.

2. Letter of Intent.

- Letters of Intent are not required.

2. Pre-application.

- Pre-applications are not required.

C. CONTENT AND FORM OF APPLICATION – SF 424 RESEARCH AND RELATED (R&R)

You must complete the mandatory forms and any applicable optional forms (e.g., SF-LLL-Disclosure of Lobbying Activities) in accordance with the instructions on the forms and the additional instructions below. **Files that are attached to the forms must be in Adobe Portable Document Format (PDF) unless otherwise specified in this announcement.** The Project Summary/Abstract file and the Project Narrative file, including the required responses to the Criteria, Bibliography & References, Facilities and Equipment information will be provided to the Merit Review Committee as part of the review process. **Identify any proprietary/business sensitive information per Part VIII.D, and do not include any Personally Identifiable Information (PII) as defined in Appendix B.**

1. SF 424 R&R.

Complete this form first to populate data in other forms. Complete all the required fields in accordance with the pop-up instructions on the form. To activate the instructions, turn on the “Help Mode” (Icon with the pointer and question mark at the top of the form).

Note: The list of certifications and assurances referenced in Field 18 can be found on the Applicant and Recipient Page at http://management.energy.gov/business_doe/business_forms.htm, under Certifications and Assurances.

2. RESEARCH AND RELATED Other Project Information.

Complete questions 1 through 5 and attach files. The files must comply with the following instructions:

Project Summary/Abstract (Field 6 on the Form).

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including

methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). **The applicant must not include any proprietary/sensitive business information or the names of potential sub-recipients as DOE will make Project Summaries/ Abstracts available to the public if selected for negotiation.** The project summary must not exceed 1 page when printed using standard 8.5" by 11" paper with 1" margins (top, bottom, left and right) with font not smaller than 11 point. Please provide the information in a single file named "Applicant Name_Project_Summary.pdf". To attach a Project Summary/Abstract, click "Add Attachment."

Project Narrative (Field 7 on the form).

The project narrative must not exceed **50 pages**, including cover page, table of contents, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right). EVALUATORS WILL ONLY REVIEW THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE. The font must not be smaller than 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application, because the information contained in these sites will not be reviewed. **See Part VIII.D for instructions on how to mark proprietary/business sensitive application information.** Please provide the information in a single file named "Applicant Name_Project_Narrative.pdf". To attach a Project Narrative, click "Add Attachment."

The project narrative must include the following items:

- Project Objectives.
This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.
- Merit Review Criterion Discussion.
The section should be formatted per Appendix E, *Application Response Criteria*, to address each of the merit review criterion and sub-criterion listed in Section V. A. Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria. DOE/NNSA WILL EVALUATE AND CONSIDER ONLY THOSE APPLICATIONS THAT ADDRESS SEPARATELY EACH OF THE MERIT REVIEW CRITERION AND SUB-CRITERION.
- Project Performance Site
Indicate the primary site where the work will be performed. If a portion of the work will be performed at any other sites, identify those sites, also.
- Project Management Plan
This plan should identify the activities/tasks to be performed, a time schedule for the accomplishment of the activities/tasks, the spending plan associated with the activities/tasks, and the expected dates for the release of outcomes. Applicants may use their own project management system to provide this information (MS Project is preferred), but **must include a Gantt Chart**. This plan should identify any decision points and go/no-go decision criteria. Successful applicants will use this plan to report schedule and budget variances.

This funding opportunity will offer financial assistance for projects which will be comprised of the following two phases:

Phase I – Engineering, Procurement, Construction (EPC)

The objectives of Phase I are to engineer, procure equipment for, and construct the geothermal power plant and associated above-ground geothermal fluid supply/disposal system at an operating oil and/or gas field.

Phase II – Operation & Maintenance (O&M)

The objectives of Phase II are to operate the power plant and fluid supply/disposal system for a period of two years and to report on their economic, performance, and operating characteristics.

In the project narrative, applicants must include clear and complete sections detailing Technical, Non-Technical, and Technology Transfer Considerations. The **Technical Considerations** section for projects funded through this funding opportunity must provide clear and concise information including but not limited to:

- Statement of Project Objectives;
- Geologic/geothermal reservoir data for the proposed project;
- Map showing proposed location and layout of wells, above-ground piping, and associated equipment for the project;
- Actual characteristics of each well or separator that is proposed as a source of geothermal fluid, including:
 - Temperature;
 - Flow rate;
 - Quantitative analysis of produced fluids, including chemical analyses of water cuts and oil /natural gas; and
 - Formation and depth from which the fluid is produced;
- Estimated characteristics of each well or other facility that is proposed for disposal of produced fluids, including:
 - Temperature;
 - Flow rate;
 - Quantitative analysis of fluids, including chemical analyses; and
 - Body of water or formation and depth receiving the disposed fluid;
- Modifications to the wellhead and/or surface systems, if necessary (**existing production and injection wells must be able to be reentered without conducting well maintenance operations at the time of application submittal**);
- Operational performance data from any previously tested units;
- Make, model, and projected net power production of the proposed power plant;
- Proposed power cycle including but not limited to process schematic² with stream state points at inlet and outlet of major components;
- Handling and disposal of power plant working fluid;
- Plans for water treatment and cleaning of scaled or fouled surfaces; and
- Nature of cooling water supply (if used).

The **Non-Technical Considerations** section for projects funded through this funding opportunity must provide clear and concise information including but not limited to:

- Arrangements between leaseholders, developers, owners, operators, and/or others, including proof that all surface and/or subsurface rights including rights to utilize the geothermal resource and the oil and/or gas wells have been secured by the appropriate parties;
- Proof of ability to provide the non-Federal share of project costs;
- Status of regulatory and environmental permitting required for the project;
- Arrangements for distribution/use of power including Power Purchase Agreement (PPA), if applicable;
- Pro forma applicable to a fully commercial project (not including federal cost share, equipment discounts, etc.) including taxes, royalties, lease payments, renewable energy credits, production tax credits, etc.;
- Cost/benefit analysis including project benefits and impacts, and avoided cost of electricity;
- Bill of Materials (BOM) with identification of long-lead items;
- Deliverables;
- Key personnel; and
- Project schedule, milestones, stage gates, go/no decisions, etc.

The **Technology Transfer Considerations** section for projects funded through this funding opportunity must provide clear and concise information including, but not limited to:

- Plan to report project data to DOE; and
- Plan for information dissemination and technology transfer (including, but not limited to, papers, webcasts, site visits, press releases) to industry and others.

Bibliography & References Cited.

Provide a bibliography of any references cited in the Project Narrative. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. Include only bibliographic citations. Applicants should be especially careful to follow scholarly practices in providing citations for source materials relied upon when preparing any section of the application. **In order to reduce the number of files attached to your application, please provide the Bibliography and References Cited information as an appendix to your Project Narrative. This appendix will not count in the project narrative page limitation. Do not attach a file in field 8.**

Facilities & Other Resources.

This information is used to assess the capability of the **existing** organizational resources, including subawardee resources, available to perform the effort proposed. Identify the **existing** facilities to be used (Laboratory, Animal, Computer, Office, Clinical and Other). If appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work. Describe other resources available to the project (e.g., machine shop, electronic shop) and the extent to which they would be available to the project. **Also, include a Geological Information Systems (GIS) map and/or other maps of facilities/resources as necessary.** In order to reduce the number of files attached to your application, please provide the Facility and Other Resource information as an appendix to your Project Narrative. This appendix will not count in the project narrative page limitation. **Do not attach a file in field 9.**

Equipment.

List major items of equipment which you own that are available to you for the proposed project. If appropriate, identify the location and potential use of this equipment for the project. **Include a Process Flow Diagram and other diagrams as necessary. Also, include a Bill of Materials (BOM) for equipment to be purchased for the project with identification of long-lead items.** In order to reduce the number of files attached to your application, please provide the Equipment information as an appendix to your Project Narrative. This appendix will not count in the project narrative page limitation. **Do not attach a file in field 10.**

Other Attachment (Field 11 on the form) .

If you need to elaborate on your responses to questions 1-5 on the "Other Project Information" document, provide the information in a single file named "Applicant Name_Project_Info.pdf". Click on "Add Attachments" in Field 11 to attach file.

Also, attach the following files:

- **Reference Checks on Federal Awards** Provide the information below for at least five, and no more than eight, federal awards that were received by either your organization or principal investigator in the last five years for technologies relevant to this announcement, with total (federal share plus recipient cost share) award values in excess of \$1,000,000. If applicant has fewer than five awards meeting this criteria, first submit those that meet the criteria, and for the remainder, provide information for awards with a federal share over \$300,000 received by either the organization or principal investigator for all technologies in the last five years. Save this plan in a single file no longer than two pages named "Applicant Name_Ref_Checks.pdf" and click on "Add Attachments" in Field 11 to attach.

The following information is required for each federal award: 1) AWARD TITLE; 2) INSTRUMENT NUMBER; 3) TOTAL AWARD VALUE (\$); 4) PERIOD OF PERFORMANCE (Dates); 5) APPLICANT'S PROJECT DIRECTOR (Name, Address, Telephone Number [including area code]); and 6) FEDERAL AGENCY MAKING AWARD (Agency Name, Federal Program Manager, Federal Program Manager's Address, Federal Program Manager's Telephone Number [including area code]).

- **Environmental Questionnaire**
You must complete the NEPA environmental questionnaire, which includes completing Parts I and II of the EF1 Environmental Checklist form (**DOE Project Officer: Jay Nathwani**) and providing construction/operation/regulatory permits already obtained for the project. Applicants should describe the extent of environmental benefits and impacts resulting from the proposed project including assumptions and quantitative data – please provide as much information as possible on topics including, but not limited to, cultural and biological resources, handling/disposal of geothermal and power plant working fluids, transmission lines, and site restoration. The EF1 and permits **must be submitted online at <https://www.eere-pmc.energy.gov/NEPA.asp>**. Follow the instructions for First Time Users. In addition to submitting the EF1 and permits online, print the EF1, scan to a PDF file with the permits, and submit as a PDF document with electronic applications through www.Grants.gov. Then, the environmental information will be evaluated and ranked according to relevant statements in

Criterion 2: Non-Technical Considerations. Save the questionnaire in a single file named "Applicant Name_Env.pdf" and click on "Add Attachments" in Field 11 to attach.

3. RESEARCH AND RELATED Senior/Key Person.

Complete this form before the Budget form to populate data on the Budget form.

Beginning with the PD/PI, provide a profile for each senior/key person proposed. A senior/key person is any individual who contributes in a substantive, measurable way to the scientific/technical development or execution of the project, whether or not a salary is proposed for this individual. Subawardees and consultants must be included if they meet this definition. For each senior/key person provide:

Biographical Sketch.

Complete a biographical sketch for each senior/key person and attach to the "Attach Biographical Sketch" field in each profile. **Do not include any Personally Identifiable Information as described in Appendix B.** The biographical information for each person must not exceed 2 pages when printed on 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right) with font not smaller than 11 point and must include:

Education and Training. Undergraduate, graduate and postdoctoral training, provide institution, major/area, degree and year.

Research and Professional Experience: Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

Publications. Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically.

Patents, copyrights and software systems developed may be provided in addition to or substituted for publications.

Synergistic Activities. List no more than 5 professional and scholarly activities related to the effort proposed.

Current and Pending Support.

Current and pending support information is not required for this program. Do not attach a Current and Pending Support file.

4. RESEARCH AND RELATED BUDGET (Total Fed + Non-Fed)

Complete the Research and Related Budget (Total Fed + Non-Fed) form in accordance with the instructions on the form (Activate Help Mode to see instructions) and the following instructions. You must complete a separate budget for each year of support requested. The form will generate a cumulative budget for the total project period. You must complete all the mandatory information on the form before the NEXT PERIOD button is activated. You may request funds under any of the categories listed as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (See PART IV, G).

Budget Justification (Field K on the form)

Provide the required supporting information for the following costs (See R&R Budget instructions): equipment; domestic and foreign travel; participant/trainees; material and supplies; publication; consultant services; ADP/computer services; subaward/consortium/contractual; equipment or facility rental/user fees; alterations and renovations; and indirect cost type. Provide any other information you wish to submit to justify your budget request. You must have a letter from each third party contributing cost sharing (i.e., a party other than the organization submitting the application) state that the third party is committed to providing a specific minimum dollar amount of cost sharing. In the budget justification, identify the following information for each third party contributing cost sharing: (1) the name of the organization; (2) the proposed dollar amount to be provided; (3) the amount as a percentage of the total project cost; and (4) the proposed cost sharing – cash, services, or property. By submitting your application, you are providing assurance that you have signed letters of commitment. Please provide the information in a single file named "Applicant Name_Budget_Justification.pdf".

Note: If selected for negotiation, applicants will be required to submit these signed letters of commitments. Attach a single budget justification file for the entire project period in Field K. The file automatically carries over to each budget year.

5. R&R SUBAWARD BUDGET (Total Fed + Non-Fed) ATTACHMENT(S) FORM**Budgets for Subawardees, other than DOE FFRDC Contractors.**

You must provide a separate R&R budget for each subawardee that is expected to perform work estimated to be more than \$100,000 or 50 percent of the total work effort (whichever is less). Download the R&R Budget Attachment from the R&R SUBAWARD BUDGET (Total Fed + Non-Fed) ATTACHMENT(S) FORM and e-mail it to each subawardee that is required to submit a separate budget. Note: Subawardees must install PureEdge viewer before they can complete the form. After the Subawardee has e-mailed its completed budget back to you, attach it to one of the blocks provided on the form. Use up to 10 letters of the subawardee's name and save the file as Applicant Name_Sub Name.xfd (e.g., Company A_University B.xfd).

6. SF-LLL Disclosure of Lobbying Activities

If applicable, complete SF- LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying."

Summary of Required Forms/Files

Your application must include the following documents:

Name of Document	Format	Attach to
SF 424 (R&R)	PureEdge Form	N/A
RESEARCH AND RELATED Other Project Information	PureEdge Form	N/A
Project Summary/Abstract	PDF	Field 6
Project Narrative, including required appendices	PDF	Field 7
Reference Checks on Federal Awards	PDF	Field 11
Environmental Questionnaire (EF1)	PDF	Field 11
RESEARCH & RELATED SENIOR/KEY PERSON	PureEdge Form	N/A
Biographical Sketch	PDF	Attach to appropriate block
RESEARCH AND RELATED BUDGET (Total Fed + Non-Fed)	PureEdge Form	N/A
Budget Justification	PDF	Field K
R&R SUBAWARD BUDGET (Total Fed + Non-Fed) ATTACHMENT(S) FORM, if applicable	PureEdge Form	N/A
SF-LLL Disclosure of Lobbying Activities, if applicable	PureEdge Form	N/A

D. SUBMISSIONS FROM SUCCESSFUL APPLICANTS.

If selected for award, DOE reserves the right to request additional or clarifying information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)
- Representation of Limited Rights Data and Restricted Software, if applicable
- Signed paper copy of Commitment Letter from Third Parties Contributing to Cost Sharing, if applicable
- Signed paper copies confirming (and permits, if applicable) that all surface and/or subsurface rights including rights to utilize the geothermal resource and the oil and/or gas wells have been secured by the appropriate parties
- Financial Reports (e.g. 10K)

E. SUBMISSION DATES AND TIMES.**1. Pre-application Due Date.**

- Pre-applications are not required.

2. Application Due Date.

- Applications must be received by July 31, 2007, 11:59 PM Eastern Time. You are encouraged to transmit your application well before the deadline. The Grants.gov Helpdesk is not available after 9:00 PM Eastern Time. APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.

F. INTERGOVERNMENTAL REVIEW

- This program is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

G. FUNDING RESTRICTIONS.

Cost Principles. Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. The cost principles for commercial organization are in FAR Part 31.

Pre-award Costs. Recipients may charge to an award resulting from this announcement pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. Recipients must obtain prior approval of the contracting officer for **any** pre-award costs, prior to the 90 day period.

Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

H. OTHER SUBMISSION AND REGISTRATION REQUIREMENTS**1. Where to Submit.**

- **APPLICATIONS MUST BE SUBMITTED THROUGH GRANTS.GOV TO BE CONSIDERED FOR AWARD.**
- Submit electronic applications through the "Apply for Grants" function at www.Grants.gov. If you have problems completing the registration process or submitting your application, call Grants.gov at 1-800-518-4726 or send an email to support@grants.gov.

2. Registration Process.

You must COMPLETE the one-time registration process (all steps) before you can submit your first application through Grants.gov (See www.grants.gov/GetStarted). **We recommend that you start this process at least three weeks before the application due date.** It may take 21 days or more to complete the entire process. Use the Grants.gov Organizational Registration Checklists at <http://www.grants.gov/section3/OrganizationRegCheck.pdf> to guide you through the process. **IMPORTANT:** During the CCR registration process, you will be asked to designate an E-Business Point of Contact (EBIZ POC). The EBIZ POC must obtain a special password called "Marketing Partner identification Number" (MPIN).

- When you have completed the process, you should call the Grants.gov Helpdesk at 1-800-518-4726 to verify that you have completed the final step (i.e. Grants.gov registration).

3. Application Receipt Notices

After an application is submitted, the Authorized Organization Representative (AOR) will receive a series of five e-mails. It is extremely important that the AOR watch for and save each of the emails. It may take up to 2 business days from application submission to receipt of email Number 2. You will know that your application has reached DOE when the AOR receives email Number 5. You will need the Submission Receipt Number (email Number 1) to track a submission. The titles of the five e-mails are:

Number 1 - Grants.gov Submission Receipt Number
 Number 2 - Grants.gov Submission Validation Receipt for Application Number
 Number 3 - Grants.gov Grantor Agency Retrieval Receipt for Application Number
 Number 4 - Grants.gov Agency Tracking Number Assignment for Application Number
 Number 5 - DOE e-Center Grant Application Received

The last email will contain instructions for the AOR to register with the DOE e-Center. If the AOR is already registered with the DOE e-Center, the title of the last email changes to:

Number 5 – DOE e-Center Grant Application Received and Matched

This email will contain the direct link to the application in IIPS. The AOR will need to enter their DOE e-Center user id and password to access the application.

Part V - APPLICATION REVIEW INFORMATION

A. CRITERIA

1. Initial Review Criteria.

- Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that the applicant meets all of the following criteria:
 - (1) The applicant must be eligible for an award.
 - (2) The information required by the announcement must be submitted to DOE.
 - (3) All mandatory requirements must be satisfied.
 - (4) The proposed project must be responsive to the objectives of the funding opportunity announcement.
 - (5) Applicants must demonstrate rights to surface and subsurface resources including rights to utilize the geothermal resource and the oil and/or gas wells for the full duration of the project period.
 - (7) Coproduced fluids must be heated ONLY in-situ by a naturally occurring geothermal heat source.
 - (8) Applicants must agree to provide DOE with the required specific economic and technical data for the life of the project and must agree to provide DOE with reasonable access to the project site.

Failure to comply may result in the application not being forwarded for full merit review.

2. Merit Review Criteria.

- Applications will be evaluated using the criteria listed below:

<u>Criterion</u>	<u>Weight</u>
1: Technical Considerations	40%
2: Non-Technical Considerations	30%
3: Technology Transfer Considerations	30%

Criterion 1: Technical Considerations Weight: [40%]

- Adequacy and completeness of the statement of project objectives
- Applicability to general concept of generating electricity using geothermal fluid in oil and/or gas fields
- Significance of technical and economic benefit to geothermal power generation, including assumptions and quantitative data
- Proven adequacy of geothermal resource to support the proposed project without further well construction, rework, or remediation
- Technical merit and feasibility of the proposed work
- Clarity and completeness of the description of each activity necessary to complete the project

Criterion 2: Non-Technical Considerations Weight: [30%]

- Adequacy of infrastructure and resources proposed to support achievement of proposed project objectives
- Likelihood of achieving project objectives through realistic milestones/deliverables and logical task structure and reasonableness of the schedule and milestones
- Adequacy of the identification and assessment of critical success factors, risks and barriers, as well as plans for mitigation
- Soundness of the project management concept and organizational structure
- Economic analysis including cost/benefit analysis, avoided cost of electricity, project budget
- Qualifications, capabilities, credentials, and experience of the principal investigator and other members of the project team
- Degree of commitment of project partners as evidenced by written documentation (PPA, letters of commitment, etc.)
- Demonstration of proof of financial support (letter of credit, balance sheet, third-party support letter, etc.) for recipient cost share portion of project
- Extent of environmental benefits and impacts resulting from the proposed project, including assumptions, quantitative data, and status/evidence of permits

Criterion 3: Technology Transfer Considerations Weight: [30%]

- Adequacy of plan to share data with DOE
- Degree of innovation/methods of technology transfer plan
- Clearness and completeness of information dissemination and technology transfer with industry and/or others

3. Other Selection Factors

The selection official may consider the following program policy factors in the selection process:

- Potential for market impact
- Technological diversity of projects
- Geographic diversity of projects
- Past Performance
- Level of cost share above minimum required
- Preference will be given to projects located on Federal land

B. REVIEW AND SELECTION PROCESS.

1. Merit Review.

- Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals." This guide is at <http://management.energy.gov/documents/meritrev.doc>.

2. Selection.

- The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available.

3. Discussions and Award.

- The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES.

- DOE anticipates notifying applicants selected for award by the end of **October 2007** and making awards by the end of **January 2008**.

Part VI - AWARD ADMINISTRATION INFORMATION

A. AWARD NOTICES.

1. Notice of Selection.

- DOE will notify applicants selected for award. This notice of selection is not an authorization to begin performance. (See Part IV.G with respect to the allowability of pre-award costs.)
- Organizations whose applications have not been selected will be advised as promptly as possible. This notice will explain why the application was not selected.

2. Notice of Award.

A Notice of Financial Assistance Award issued by the contracting officer is the authorizing award document. It normally includes, either as an attachment or by reference: 1. Special Terms and Conditions; 2. Applicable program regulations, if any; 3. Application as approved by DOE/NNSA.; 4. DOE assistance regulations at 10 CFR part 600, or, for Federal Demonstration Partnership (FDP) institutions, the FDP terms and conditions; 5. National Policy Assurances To Be Incorporated As Award Terms; 6. Budget Summary; and 7. Federal Assistance Reporting Checklist, which identifies the reporting requirements.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS.

1. Administrative Requirements.

The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR part 600 (See: <http://ecfr.gpoaccess.gov>), except for grants made to Federal Demonstration Partnership (FDP) institutions. The FDP terms and conditions and DOE FDP agency specific terms and conditions are located on the National Science Foundation web site at http://www.nsf.gov/awards/managing/fed_dem_part.jsp.

2. Special Terms and Conditions and National Policy Requirements.

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at http://management.energy.gov/business_doe/business_forms.htm under Award Terms. The National Policy Assurances To Be Incorporated As Award Terms are located at http://management.energy.gov/business_doe/business_forms.htm under Award Terms.

3. Intellectual Property Provisions.

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at http://www.gc.doe.gov/techtrans/sipp_matrix.html.

The data protection statute will apply to awards made under this FOA stating specific technical and economic data that DOE intends to use for programmatic purposes.

Comment [wv1]: Clarify in FOA

Comment [wv2]: Will be rewritten per Julia Moody's comments

C. REPORTING.

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement. The proposed Checklist for this program is https://www.eere-pmc.energy.gov/procurenet/FinancialAssistance/Forms/DOE_Forms/DOEF4600_2.doc

Award recipients will be expected to submit or present the following reports, at a minimum:

- Technical and Financial reports will be submitted quarterly;
- Technical and Financial reports will be submitted annually;
- Phase I Report;
- Phase II Report;
- Final Report;
- Annual Operating Plan;
- Peer/Program Review Report; and
- Other reports as deemed necessary by the GTP Project Officer.

DOE must be provided with reasonable access to the project site.

PART VII - QUESTIONS/AGENCY CONTACTS

A. QUESTIONS

Questions regarding the content of the announcement must be submitted through the "Submit Question" feature of the DOE Industry Interactive Procurement System (IIPS) at <http://e-center.doe.gov>. Locate the program announcement on IIPS and then click on the "Submit Question" button. Enter required information. You will receive an electronic notification that your question has been answered. DOE/NNSA will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.

Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. DOE cannot answer these questions.

B. Agency Contact

Name: Pete Simon
E-mail: GeoCoproduction@go.doe.gov
Telephone: 303-275-4783

All questions should be submitted through the "Submit Question" feature of IIPS (See Section A in this Part)

PART VIII - OTHER INFORMATION

A. MODIFICATIONS.

Notices of any modifications to this announcement will be posted on Grants.gov and the DOE Industry Interactive Procurement System (IIPS). You can receive an email when a modification or an announcement message is posted by joining the mailing list for this announcement through the link in IIPS. When you download the application at Grants.gov, you can also register to receive notifications of changes through Grants.gov.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE.

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS.

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

D. PROPRIETARY APPLICATION INFORMATION.

Patentable ideas, trade secrets, proprietary/confidential commercial/financial/business sensitive information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the

applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

“The data contained in pages _____ of this application have been submitted in confidence and contain trade secrets or proprietary/business sensitive information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government’s right to use or disclose data obtained without restriction from any source, including the applicant.”

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary/business sensitive information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL.

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM.

Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See “Notice of Right to Request Patent Waiver” in paragraph G below.)

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE’s own needs or to insure the commercialization of technology developed under a DOE agreement.

- Special Protected Data Statutes. This program is covered by a special protected data statute. The provisions of the statute provide for the protection from public disclosure, for a period of up to five years from the development of the information, of data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. Generally, the provision entitled, Rights in Data – Programs Covered Under Special Protected Data Statutes, (10 CFR 600 Appendix A to Subpart D), would apply to an award made under this announcement. This provision will identify data or categories of data first produced in the performance of the

award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and will also identify data that will be recognized by the parties as protected data. For example, data expected to be made publicly available will include: plant process conditions (including geothermal fluid conditions), net power generated, operating reliability, and general cost data. The data provision will also identify data that will be recognized by the parties as protected data.

Comment [wv3]: Will be edited per Julia Moody's comments

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER.

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES.

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

I. NOTICE OF RIGHT TO CONDUCT A REVIEW OF FINANCIAL CAPABILITY.

DOE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

REFERENCE MATERIAL

Appendix A – Definitions

"Amendment" means a revision to a solicitation.

"Applicant" means the legal entity or individual signing the Application. This entity or individual may be one organization or a single entity representing a group of organizations (such as a Consortium) that has chosen to submit a single Application in response to a solicitation.

"Application" means the documentation submitted in response to a solicitation. NOTE: Application is referred to as Proposal in IIPS.

“Authorized Organization Representative (AOR)” is the person with assigned privileges who is authorized to submit grant applications through Grants.gov on behalf of an organization. The privileges are assigned by the organization's E-Business Point of Contact designated in the CCR.

"Award" means the written documentation executed by a DOE Contracting Officer, after an Applicant is selected, which contains the negotiated terms and conditions for providing Financial Assistance to the Applicant. A Financial Assistance Award may be either a Grant or a Cooperative Agreement.

"Budget" means the cost expenditure plan submitted in the Application, including both the DOE contribution and the Applicant Cost Share.

“Central Contractor Registry (CCR)” is the primary database which collects, validates, stores and disseminates data in support of agency missions. Funding Opportunity Announcements which require application submission through Grants.gov require that the organization first be registered in the CCR at <http://www.grants.gov/CCRRegister>.

"Consortium (plural consortia)" means the group of organizations or individuals that have chosen to submit a single Application in response to a solicitation.

"Contracting Officer" means the DOE official authorized to execute Awards on behalf of DOE and who is responsible for the business management and non-program aspects of the Financial Assistance process.

"Cooperative Agreement" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and Substantial Involvement (see definition below) is anticipated between DOE and the Applicant during the performance of the contemplated activity.

"Cost Sharing" means the respective share of Total Project Costs to be contributed by the Applicant and by DOE. The percentage of Applicant Cost Share is to be applied to the Total Project Cost (i.e., the sum of Applicant plus DOE Cost Shares) rather than to the DOE contribution alone.

“Coproduct Fluid” is the water cut recovered along with petroleum or natural gas from a production well.

“Credential Provider” is an organization that validates the electronic identity of an individual through electronic credentials, PINS, and passwords for Grants.gov. Funding Opportunity Announcements which require application submission through Grants.gov require that the individual applying on behalf of an organization first be registered with the Credential Provider at <https://apply.grants.gov/OrcRegister>.

“Data Universal Numbering System (DUNS) Number” is a unique nine-character identification number issued by Dun and Bradstreet (D&B). Organizations must have a DUNS number prior to registering in the CCR. Call 1-866-705-5711 to receive one free of charge. http://www.grants.gov/applicants/request_duns_number.jsp

“Developer” is the person or company that is responsible for drilling and related activities necessary to begin production of the oil and/or gas field¹.

“E-Business Point of Contact (POC)” is the individual who is designated as the Electronic Business Point of Contact in the CCR registration. This person is the sole authority of the organization with the capability of designating or revoking an individual's ability to submit grant applications on behalf of their organization through Grants.gov.

“E-Find” is a Grants.gov webpage where you can search for Federal Funding Opportunities in FedGrants. <http://www.grants.gov/search/searchHome.do>

“Financial Assistance” means the transfer of money or property to an Applicant or Participant to accomplish a public purpose of support authorized by Federal statute through Grants or Cooperative Agreements and sub-awards. For DOE, it does not include direct loans, loan guarantees, price guarantees, purchase agreements, Cooperative Research and Development Agreements (CRADAs), or any other type of financial incentive instrument.

“Federally Funded Research and Development Center (FFRDC)” means a research laboratory as defined by Federal Acquisition Regulation 35.017.

“Funding Opportunity Announcement (FOA)” is a publicly available document by which a Federal agency makes known its intentions to award discretionary grants or cooperative agreements, usually as a result of competition for funds. Funding opportunity announcements may be known as program announcements, notices of funding availability, solicitations, or other names depending on the agency and type of program.

“Grant” means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and no Substantial Involvement is anticipated between DOE and the Applicant during the performance of the contemplated activity.

“Grants.gov” is the “storefront” web portal which allows organizations to electronically find and apply for competitive grant opportunities from all Federal grant-making agencies. Grants.gov is THE single access point for over 900 grant programs offered by the 26 Federal grant-making agencies. <http://www.grants.gov>

“Industry Interactive Procurement System (IIPS)” is DOE's Internet-based procurement system which allows access to DOE's business opportunities database, allows user registration and submittal of Applications: <http://e-center.doe.gov/>.

“Key Personnel” means the individuals who will have significant roles in planning and implementing the proposed Project on the part of the Applicant and Participants, including FFRDCs.

“Leaseholder” is the person or company holding the legal agreement setting forth the terms and conditions upon which the lessee may engage in the exploration, development, and/or production of oil and/or gas¹.

“Marketing Partner Identification Number (MPIN)” is a very important password designated by your organization when registering in CCR. The E-Business Point of Contact will need the MPIN to login to Grants.gov to assign privileges to the individual(s) authorized to submit applications on behalf of your organization. The MPIN must have 9 digits containing at least one alpha character (must be in capital letters) and one number (no spaces or special characters permitted).

“Operator” is the person or company, either proprietor or lessee, actually operating a well or lease, generally the oil or gas company that engages the drilling, service, and workover contractors¹.

“Owner” is the legal entity that has ownership interest in a fixed asset, product, pipeline, or well¹.

“Participant” for purposes of this Solicitation only, means any entity, except the Applicant substantially involved in a Consortium, or other business arrangement (including all parties to the Application at any tier), responding to the Solicitation.

“Project” means the set of activities described in an Application, State plan, or other document that is approved by DOE for Financial Assistance (whether such Financial Assistance represents all or only a portion of the support necessary to carry out those activities).

“Proposal” is the term used in IIPS meaning the documentation submitted in response to a solicitation. Also see Application.

“Recipient” means the organization, individual, or other entity that receives a Financial Assistance Award from DOE, is financially accountable for the use of any DOE funds or property provided for the performance of the Project, and is legally responsible for carrying out the terms and condition of the award.

“Selection” means the determination by the DOE Selection Official that negotiations take place for certain Projects with the intent of awarding a Financial Assistance instrument.

“Selection Official” means the DOE official designated to select Applications for negotiation toward Award under a subject solicitation.

“Substantial Involvement” means involvement on the part of the Government. DOE's involvement may include shared responsibility for the performance of the Project; providing technical assistance or guidance which the Applicant is to follow; and the right to intervene in the conduct or performance of the Project. Such involvement will be negotiated with each Applicant prior to signing any agreement.

“Total Project Cost” means all the funds to complete the effort proposed by the Applicant, including DOE funds (including direct funding of any FFRDC) plus all other funds that will be committed by the Applicant as Cost Sharing.

1. Source: www.aga.org (American Gas Association)

Appendix B – Personally Identifiable Information

In responding to this Announcement, Applicants must ensure that Protected Personally Identifiable Information (PII) is not included in the following documents: Project Abstract, Project Narrative, Biographical Sketches, Budget or Budget Justification. These documents will be used by the Merit Review Committee in the review process to evaluate each application. PII is defined by the Office of Management and Budget (OMB) and DOE as:

Any information about an individual maintained by an agency, including but not limited to, education, financial transactions, medical history, and criminal or employment history and information that can be used to distinguish or trace an individual's identity, such as their name, social security number, date and place of birth, mother's maiden name, biometric records, etc., including any other personal information that is linked or linkable to an individual.

This definition of PII can be further defined as: (1) Public PII and (2) Protected PII.

2. **Public PII:** PII found in public sources such as telephone books, public websites, business cards, university listing, etc. Public PII includes first and last name, address, work telephone number, email address, home telephone number, and general education credentials.
3. **Protected PII:** PII that requires enhanced protection. This information includes data that if compromised could cause harm to an individual such as identity theft.

Listed below are examples of Protected PII that Applicants must not include in the files listed above to be evaluated by the Merit Review Committee.

- Social Security Numbers in any form
- Place of Birth associated with an individual
- Date of Birth associated with an individual
- Mother's maiden name associated with an individual
- Biometric record associated with an individual
- Fingerprint
- Iris scan
- DNA
- Medical history information associated with an individual
- Medical conditions, including history of disease
- Metric information, e.g. weight, height, blood pressure
- Criminal history associated with an individual
- Employment history and other employment information associated with an individual
- Ratings
- Disciplinary actions
- Performance elements and standards (or work expectations) are PII when they are so intertwined with performance appraisals that their disclosure would reveal an individual's performance appraisal
- Financial information associated with an individual
- Credit card numbers
- Bank account numbers
- Security clearance history or related information (not including actual clearances held)

Listed below are examples of Public PII that Applicants may include in the files listed above to be evaluated by the Merit Review Committee:

- Phone numbers (work, home, cell)
- Street addresses (work and personal)
- Email addresses (work and personal)
- Digital pictures
- Birthday cards
- Birthday emails
- Medical information pertaining to work status (i.e. individual A is out sick today)
- Medical information included in a health or safety report
- Employment information that is not PII even when associated with a name
- Resumes, unless they include a Social Security Number
- Present and past position titles and occupational series
- Present and past grades
- Present and past annual salary rates (including performance awards or bonuses, incentive awards, merit pay amount, Meritorious or Distinguished Executive Ranks, and allowances and differentials)
- Present and past duty stations and organization of assignment (includes room and phone numbers, organization designations, work email address, or other identifying information regarding buildings, room numbers, or places of employment)
- Position descriptions, identification of job elements, and those performance standards (but not actual performance appraisals) that the release of which would not interfere with law enforcement programs or severely inhibit agency effectiveness
- Security clearances held
- Written biographies (e.g. to be used in a program describing a speaker)
- Academic credentials
- Schools attended
- Major or area of study
- Personal information stored by individuals about themselves on their assigned workstation or laptop unless it contains a Social Security Number

Appendix C – Cost Sharing Information

The requirement for cost sharing included in Funding Opportunity Announcements (FOA) issued competitively by the Department of Energy (DOE) is either statutory, programmatic, or both. Certain federal statutes require a minimum cost share requirement, by either type of activities funded or by Program. This is known as statutory cost share. The Program may also, at its discretion, require a greater level of cost share than the statutory minimum, or require cost share when there is no minimum requirement, as it determines appropriate. This is called programmatic cost share.

Research and development (R&D) activities (other than R&D activities related to basic science) require Recipients (those receiving the financial assistance awards from DOE) to cost share at a minimum of 20% of total project costs. This statutory requirement is prescribed in Section 988 of the Environmental Policy Act (EPA) of 2005. Any waiver of this requirement must be approved by the Secretary of Energy.

The regulations that govern Federal Financial Assistance for DOE are found at 10 Code of Federal Regulations (CFR) Part 600. Specifically, Section 600.313 ([Electronic Code of Federal Regulations \(e-CFR\)](#)) "Cost sharing and matching" provides guidance on acceptable contributions toward cost share requirements, as well as guidance on the valuation and documentation of contributions.

When responding to a DOE FOA, an Applicant will have the opportunity to ask questions at the DOE IIPS website (<https://e-center.doe.gov/>). Specific questions as to the acceptability and allowability of intended cost share for a proposed project in response to a FOA may be posed at this site during the time period when the FOA is open for questions.

Below is a summary of the requirements as described by 10 CFR 600.313 regarding for-profit entities. Please view the full CFR section using the link provided previously in this Appendix to ensure that all requirements for allowable cost share are met.

Acceptable contributions including cash contributions and third party in-kind contributions, must be accepted as part of the recipient's cost sharing or matching if such contributions meet all of the following criteria:

- They are verifiable from the recipient's records.
- They are not included as contributions for any other federally-assisted project or program.
- They are necessary and reasonable for proper and efficient accomplishment of project or program objectives.
- They are allowable under 10 CFR 600.317.
- They are not paid by the Federal Government under another award unless authorized by Federal statute to be used for cost sharing or matching.
- They are provided for in the approved budget.
- They conform to other provisions of this part, as applicable.

General examples of allowable cost share are shown below. It is up to the applicant to ensure that the cost share proposed in response to this FOA is allowable under 10 CFR 600.313.

- Cash provided directly by the recipient;
- State or local government funds provided to support the proposed project;
- Employees' salaries if paid by the employer and not funded by the proposed budget;
- Rental value of buildings or equipment necessary to the success of the proposed project and provided in-kind to the proposed project;
- Monetary value of work activities by a third party in-kind necessary to the success of the proposed project.

Appendix D – Important Supplemental Information for Applicants

Applicants should note that GTP as created a website containing information pertinent to this FOA. The website is located at <http://www1.eere.energy.gov/geothermal/>. Applicants should ensure that they are familiar with the information on this website throughout the entire FOA process. This website also includes GETEM as well as other analytical tools for your use in the preparation of this application.

DOE intends to post a comprehensive list of required economic and technical data parameters to be reported to DOE during the life of the projects.

Notifications and updates regarding the goals of the Program will also be posted here as needed during this process.

Appendix E – Application Response Criteria

Applicants should format their applications in a way that clearly addresses each of the following criteria.

Criterion 1: Technical Considerations Weight: [40%]

- Include a thorough statement of project objectives.
- Describe the project's applicability and general concept of generating electricity using geothermal fluid in oil and/or gas fields.
- Describe of technical and economic benefit to geothermal power generation, including assumptions and quantitative data.
- Discuss the adequacy of the geothermal resource to support the proposed project without further well construction, rework, or remediation.
- Describe the technical merit and feasibility of the proposed work.
- Thoroughly describe each activity necessary to complete the project.

Criterion 2: Non-Technical Considerations Weight: [30%]

- Describe infrastructure and resources proposed to support the achievement of proposed project objectives.
- Provide milestones/deliverables, a logical task structure, and a schedule to illustrate how project objectives will be met.
- Identify and access critical success factors, risks and barriers, as well as plans for mitigation.
- Discuss the project management plan and organizational structure.
- Provide economic analysis including cost/benefit analysis, avoided cost of electricity, and project budget.
- Describe the qualifications, capabilities, credentials, and experience of the principal investigator and other members of the project team.
- Demonstrate the commitment of project partners as evidenced by written documentation (PPA, letters of commitment, etc.).
- Demonstrate proof of financial support (letter of credit, balance sheet, third-party support letter, etc.) for recipient cost share portion of project.
- Describe the extent of environmental benefits and impacts resulting from the proposed project, including assumptions, quantitative data, and status/evidence of permits.

Criterion 3: Technology Transfer Considerations Weight: [30%]

- Describe the plan to share data with DOE.
- Describe methods for the technology transfer plan
- Demonstrate the completeness of information dissemination and technology transfer with industry and/or others